

# **WOLF LODGE INN (PWSNO 1280201) SOURCE WATER ASSESSMENT REPORT**

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**March 19, 2001**



## **State of Idaho Department of Environmental Quality**

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## Source Water Assessment for Wolf Lodge Inn

Under the Federal Safe Drinking Water Act Amendments of 1996, all states are required by the U.S. Environmental Protection Agency (EPA) to assess every source of public drinking water for its relative sensitivity to contaminants regulated by the Act. The Idaho Department of Environmental Quality is completing the assessments for all Idaho public drinking water systems. The assessment for your particular drinking water source is based on a land use inventory within a 1,000 foot radius of your drinking water source, sensitivity factors associated with the source and characteristics associated with either your aquifer or the watershed in which you live.

This report, *Source Water Assessment for Wolf Lodge Inn* describes the public drinking water system, the associated potential contaminant sources located within a 1000-foot boundary around the drinking water source, and the susceptibility (risk) that may be associated with any associated potential contaminants. This assessment, taken into account with local knowledge and concerns, should be used as a planning tool to develop and implement appropriate protection measures for this system. **The results should not be used as an absolute measure of risk and are not intended to undermine the confidence in your water system.**

Drinking Water for Wolf Lodge Inn is supplied by a 200-foot deep well. Separate lines, isolated by a gate valve, serve the restaurant, cabin and irrigation system. When shock chlorination of the well failed to correct microbial contamination, the system installed an in line chlorinator and contact tank in 1987. The one positive quarterly test for total Coliform bacteria since then was due to malfunction of the chlorinator. The water system tests annually for nitrates. Since 1996 nitrate concentrations in the Wolf Lodge Inn well water have been far below the Maximum Contaminant Level or were undetectable.

Based on the water system's history, the Wolf Lodge Inn well ranked highly susceptible to microbial contamination in an analysis IDEQ performed February 6, 2001. The well's susceptibility to inorganic chemical and synthetic chemical contamination is moderate. No well log is on file for Wolf Lodge Inn, so the system was scored conservatively on unknown well construction and hydrologic factors usually determined from the well log. Available materials do not show the locations of septic systems relative to the wells and within the 1000-foot zone. The susceptibility analysis worksheet for your well along with a map showing the delineated area for Wolf Lodge Inn is included with this summary. Information regarding the potential contaminants within the 1000-foot boundary is summarized on Table 1.

**Table 1. Wolf Lodge Inn Potential Contaminant Inventory**

Map ID	Source Description	Source of Information	Potential Contaminants
1	Surface Water	USGS MAP	IOC, VOC, SOC, Microbial
2	Roads	USGS Map	IOC, VOC, SOC, Microbial

*IOC = inorganic chemical, VOC = volatile organic chemical, SOC = synthetic organic chemical*

This assessment should be used as a basis for determining appropriate new protection measures or re-evaluating existing protection efforts. No matter what ranking a source receives, protection is always important. Whether the source is currently located in a “pristine” area or an area with numerous industrial and/or agricultural land uses, the way to ensure good water quality in the future is to act now to protect valuable water supply resources.

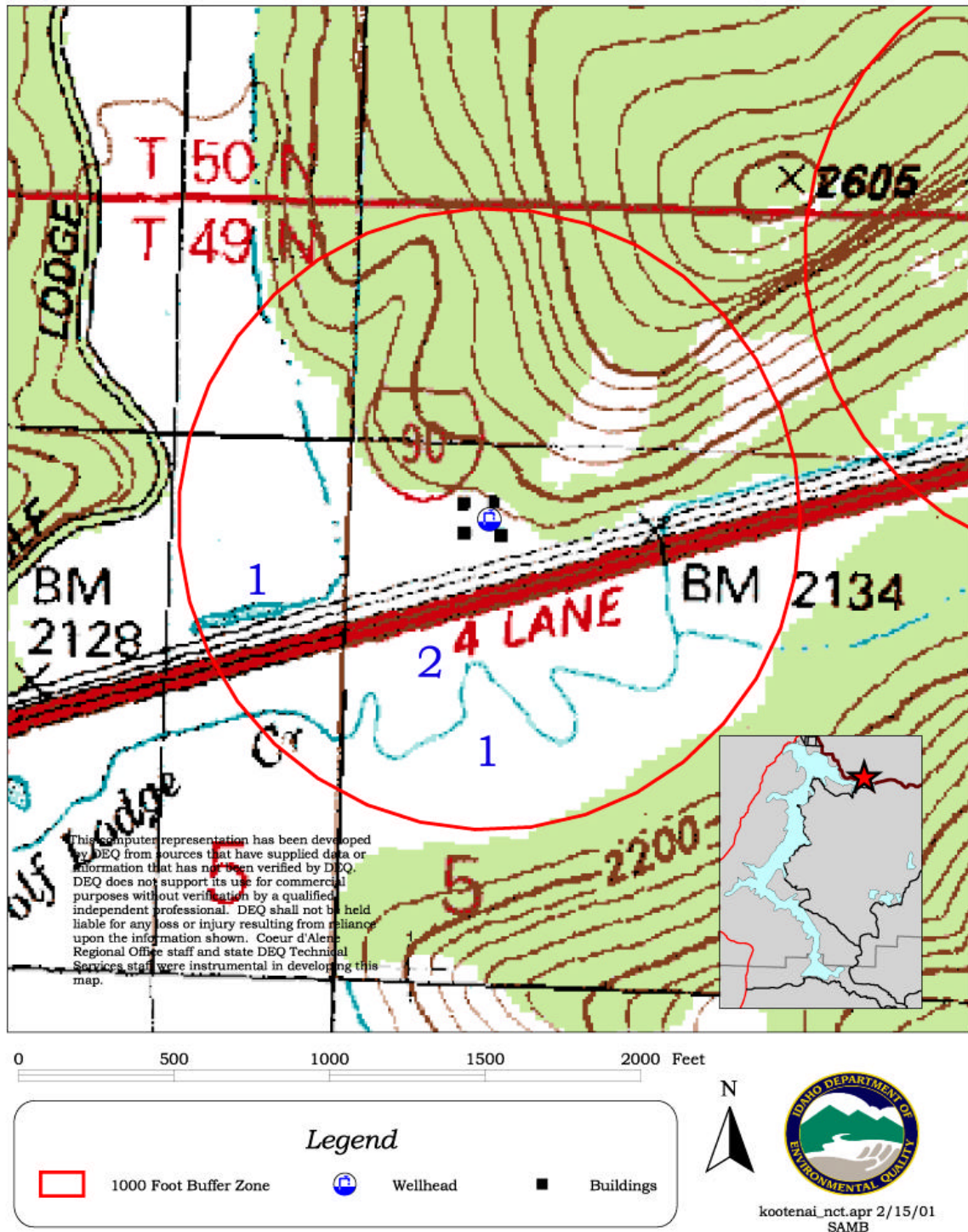
Source water protection activities for Wolf Lodge Inn should focus first on the area immediately around the well. Fertilizers, insecticides, herbicides, solvents and petroleum products should not be used in the sanitary setback zone (50-foot radius around the well). Storm water off the buildings and parking lot should be diverted away from the well head. Proper septic system maintenance is important for prevention of microbial and nitrate contamination. Because Wolf Lodge Inn doesn't have jurisdiction over the entire 1000-foot zone around the well, partnerships with neighbors and the highway district should be formed to regulate activities that could degrade the ground water. Wolf Lodge Inn should identify potential emergency situations that could affect ground water and work out response procedures. Source water protection activities should be aimed at long-term management strategies even though these strategies may not yield results in the near term.

For assistance in developing source water protection strategies please contact Tony Davis at the Coeur d'Alene Regional DEQ office at 208 769-1422.

DEQ website:

<http://www.deq.state.id.us>

Figure 1. Wolf Lodge Inn. Delineation and Potential Contaminant Inventory.



## Ground Water Susceptibility

Public Water System Name :

**WOLF LODGE INN**

Well# :

**WELL #1**

Public Water System Number :

**1280201**

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1. System Construction		SCORE			
Drill Date	Unknown				
Driller Log Available	NO				
Sanitary Survey (if yes, indicate date of last survey)	YES	199			
		6			
Well meets IDWR construction standards	NO	1			
Wellhead and surface seal maintained	YES	0			
Casing and annular seal extend to low permeability unit	Unknown	2			
Highest production 100 feet below static water level	YES	0			
Well located outside the 100 year flood plain	YES	0			
<b>Total System Construction Score</b>		<b>3</b>			
2. Hydrologic Sensitivity					
Soils are poorly to moderately drained	YES	0			
Vadose zone composed of gravel, fractured rock or unknown	Unknown	1			
Depth to first water > 300 feet	NO	1			
Aquitard present with > 50 feet cumulative thickness	Unknown	2			
<b>Total Hydrologic Score</b>		<b>4</b>			
3. Potential Contaminant / Land Use - ZONE 1A (Sanitary Setback)		IOC	VOC	SOC	Microbial
		Score	Score	Score	Score
Land Use Zone 1A	Rural Residential/Commercial	0	0	0	0
Farm chemical use high	NO	0	0	0	
IOC, VOC, SOC, or Microbial sources in Zone 1A	Microbial	NO	NO	NO	YES
<b>Total Potential Contaminant Source/Land Use Score - Zone 1A</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>H*</b>
Potential Contaminant / Land Use - ZONE 1B (1000-foot Buffer Zone)					
Contaminant sources present (Number of Sources)	YES	2	2	2	3
(Score = # Sources X 2 ) 8 Points Maximum		4	4	4	6
Sources of Class II or III leacheable contaminants or Microbials	YES	2	2	2	
4 Points Maximum		2	2	2	
Zone 1B contains or intercepts a Group 1 Area	NO	0	0	0	0
Land use Zone 1B	Less Than 25% Agricultural Land	0	0	0	0
<b>Total Potential Contaminant Source / Land Use Score - Zone 1B</b>		<b>6</b>	<b>6</b>	<b>6</b>	<b>6</b>
<b>Cumulative Potential Contaminant / Land Use Score</b>		<b>6</b>	<b>6</b>	<b>6</b>	<b>6</b>
<b>4. Final Susceptibility Source Score</b>		<b>9</b>	<b>9</b>	<b>9</b>	<b>9</b>
5. Final Well Ranking		Moderate	Moderate	Moderate	High*

\*Automatically ranked highly susceptible to microbial contamination based on water system's history.

The final scores for the susceptibility analysis were determined using the following formulas:

1) VOC/SOC/IOC Final Score = Hydrologic Sensitivity + System Construction + (Potential Contaminant/Land Use x 0.27)

2) Microbial Final Score = Hydrologic Sensitivity + System Construction + (Potential Contaminant/Land Use x 0.35)

Final Susceptibility Scoring:

0 - 5 Low Susceptibility

6 - 12 Moderate Susceptibility

> 13 High Susceptibility.

## POTENTIAL CONTAMINANT INVENTORY

### LIST OF ACRONYMS AND DEFINITIONS

**AST (Aboveground Storage Tanks)** – Sites with aboveground storage tanks.

**Business Mailing List** – This list contains potential contaminant sites identified through a yellow pages database search of standard industry codes (SIC).

**CERCLIS** – This includes sites considered for listing under the **Comprehensive Environmental Response Compensation and Liability Act (CERCLA)**. CERCLA, more commonly known as **Superfund** is designed to clean up hazardous waste sites that are on the national priority list (NPL).

**Cyanide Site** – DEQ permitted and known historical sites/facilities using cyanide.

**Dairy** – Sites included in the primary contaminant source inventory represent those facilities regulated by Idaho State Department of Agriculture (ISDA) and may range from a few head to several thousand head of milking cows.

**Deep Injection Well** – Injection wells regulated under the Idaho Department of Water Resources generally for the disposal of stormwater runoff or agricultural field drainage.

**Enhanced Inventory** – Enhanced inventory locations are potential contaminant source sites added by the water system. These can include new sites not captured during the primary contaminant inventory, or corrected locations for sites not properly located during the primary contaminant inventory. Enhanced inventory sites can also include miscellaneous sites added by the Idaho Department of Environmental Quality (DEQ) during the primary contaminant inventory.

**Floodplain** – This is a coverage of the 100year floodplains.

**Group 1 Sites** – These are sites that show elevated levels of contaminants and are not within the priority one areas.

**Inorganic Priority Area** – Priority one areas where greater than 25% of the wells/springs show constituents higher than primary standards or other health standards.

**Landfill** – Areas of open and closed municipal and non-municipal landfills.

**LUST (Leaking Underground Storage Tank)** – Potential contaminant source sites associated with leaking underground storage tanks as regulated under RCRA.

**Mines and Quarries** – Mines and quarries permitted through the Idaho Department of Lands.)

**Nitrate Priority Area** – Area where greater than 25% of wells/springs show nitrate values above 5mg/l.

**NPDES (National Pollutant Discharge Elimination System)** – Sites with NPDES permits. The Clean Water Act requires that any discharge of a pollutant to waters of the United States from a point source must be authorized by an NPDES permit.

**Organic Priority Areas** – These are any areas where greater than 25 % of wells/springs show levels greater than 1% of the primary standard or other health standards.

**Recharge Point** – This includes active, proposed, and possible recharge sites on the Snake River Plain.

**RICRIS** – Site regulated under **Resource Conservation Recovery Act (RCRA)**. RCRA is commonly associated with the cradle to grave management approach for generation, storage, and disposal of hazardous wastes.

**SARA Tier II (Superfund Amendments and Reauthorization Act Tier II Facilities)** – These sites store certain types and amounts of hazardous materials and must be identified under the Community Right to Know Act.

**Toxic Release Inventory (TRI)** – The toxic release inventory list was developed as part of the Emergency Planning and Community Right to Know (Community Right to Know) Act passed in 1986. The Community Right to Know Act requires the reporting of any release of a chemical found on the TRI list.

**UST (Underground Storage Tank)** – Potential contaminant source sites associated with underground storage tanks regulated as regulated under RCRA.

**Wastewater Land Applications Sites** – These are areas where the land application of municipal or industrial wastewater is permitted by DEQ.

**Wellheads** – These are drinking water well locations regulated under the Safe Drinking Water Act. They are not treated as potential contaminant sources.

**NOTE:** Many of the potential contaminant sources were located using a geocoding program where mailing addresses are used to locate a facility. Field verification of potential contaminant sources is an important element of an enhanced inventory.

Where possible, a list of potential contaminant sites unable to be located with geocoding will be provided to water systems to determine if the potential contaminant sources are located within the source water assessment area.